

Title (en)
MATERIAL WITH IMMUNOGENICITY

Title (de)
MATERIAL MIT IMMUNOGENIZITÄT

Title (fr)
COMPOSÉ IMMUNOGÉNIQUE

Publication
EP 2172488 A4 20110413 (EN)

Application
EP 08757755 A 20080618

Priority
• CN 2008071346 W 20080618
• US 94478007 P 20070618
• US 95185607 P 20070725

Abstract (en)
[origin: EP2172488A1] Provided is a fusion protein, which comprises human papillomavirus E7 antigen, virus capsid protein and molecular chaperone. Also provided is a macromolecule with immunogenicity aggregated by the fusion proteins. The particle morphology of the macromolecule is different from that of virus-like particle. The macromolecule can be used for treatment of human papillomavirus relating diseases.

IPC 8 full level
A61K 39/12 (2006.01); **A61K 39/29** (2006.01); **A61P 1/16** (2006.01); **A61P 31/20** (2006.01); **A61P 35/00** (2006.01); **A61P 37/00** (2006.01); **C07K 14/02** (2006.01); **C07K 14/025** (2006.01); **C07K 14/35** (2006.01); **C07K 19/00** (2006.01); **C12N 15/63** (2006.01)

CPC (source: EP US)
A61K 39/12 (2013.01 - EP US); **A61P 1/16** (2017.12 - EP); **A61P 15/00** (2017.12 - EP); **A61P 17/00** (2017.12 - EP); **A61P 31/12** (2017.12 - EP); **A61P 31/20** (2017.12 - EP); **A61P 35/00** (2017.12 - EP); **A61P 37/00** (2017.12 - EP); **C07K 14/005** (2013.01 - EP US); **C12N 7/00** (2013.01 - EP US); **A61K 2039/585** (2013.01 - EP US); **A61K 2039/6043** (2013.01 - EP US); **C07K 2319/35** (2013.01 - EP US); **C12N 2710/20022** (2013.01 - EP US); **C12N 2710/20034** (2013.01 - EP US)

Citation (search report)

- [Y] WO 02062959 A2 20020815 - STRESSGEN BIOTECHNOLOGIES CORP [CA], et al
- [Y] WO 0104344 A2 20010118 - STRESSGEN BIOTECHNOLOGIES CORP [CA], et al
- [Y] WO 9907860 A1 19990218 - STRESSGEN BIOTECHNOLOGIES CORP [CA], et al
- [Y] US 2004081661 A1 20040429 - HALLEK MICHAEL [DE], et al
- [Y] CHU N R ET AL: "Immunotherapy of a human papillomavirus type 16 E7-expressing tumor by administration of fusion protein comprised of Mycobacterium bovis BCG Hsp65 and HPV16 E7.", CELL STRESS & CHAPERONES NOV 2000 LNKD- PUBMED:11189443, vol. 5, no. 5, November 2000 (2000-11-01), pages 401 - 405, XP002619481, ISSN: 1355-8145
- [Y] LI Y ET AL: "Generation of anti-tumor immunity using mammalian heat shock protein 70 DNA vaccines for cancer immunotherapy", VACCINE, ELSEVIER LTD, GB, vol. 24, no. 25, 19 June 2006 (2006-06-19), pages 5360 - 5370, XP025151288, ISSN: 0264-410X, [retrieved on 20060619], DOI: 10.1016/J.VACCINE.2006.04.028
- [Y] KUCK D ET AL: "Efficiency of HPV 16 L1/E7 DNA immunization: Influence of cellular localization and capsid assembly", VACCINE, ELSEVIER LTD, GB, vol. 24, no. 15, 5 April 2006 (2006-04-05), pages 2952 - 2965, XP025151805, ISSN: 0264-410X, [retrieved on 20060405], DOI: 10.1016/J.VACCINE.2005.12.023
- [Y] XU YU-FEI ET AL: "Encapsidating artificial human papillomavirus-16 mE7 protein in human papillomavirus-6b L1/L2 virus like particles", CHINESE MEDICAL JOURNAL (ENGLISH EDITION), vol. 120, no. 6, March 2007 (2007-03-01), pages 503 - 508, XP002620834, ISSN: 0366-6999
- [Y] TINDLE R W ET AL: "CHIMERIC HEPATITIS B CORE ANTIGEN PARTICLES CONTAINING B- AND TH-EPITOPES OF HUMAN PAPILLOMAVIRUS TYPE 16 E7 PROTEIN INDUCE SPECIFIC ANTIBODY AND T-HELPER RESPONSES IN IMMUNISED MICE", VIROLOGY, ACADEMIC PRESS, ORLANDO, US, vol. 200, no. 2, 1 May 1994 (1994-05-01), pages 547 - 557, XP002035981, ISSN: 0042-6822, DOI: 10.1006/VIRO.1994.1217
- [Y] LONDONO L P ET AL: "Immunisation of mice using Salmonella typhimurium expressing human papillomavirus type 16 E7 epitopes inserted into hepatitis B virus core antigen", VACCINE, ELSEVIER LTD, GB, vol. 14, no. 6, 1 April 1996 (1996-04-01), pages 545 - 552, XP004057285, ISSN: 0264-410X, DOI: 10.1016/0264-410X(95)00216-N
- [Y] YANG ET AL: "Recombinant heat shock protein 65 carrying hepatitis B core antigen induces HBcAg-specific CTL response", VACCINE, ELSEVIER LTD, GB, vol. 25, no. 22, 6 May 2007 (2007-05-06), pages 4478 - 4486, XP022062927, ISSN: 0264-410X, DOI: 10.1016/J.VACCINE.2007.03.020
- [Y] CLARKE B E ET AL: "PRESENTATION AND IMMUNOGENICITY OF VIRAL EPITOPES ON THE SURFACE OF HYBRID HEPATITIS B VIRUS CORE PARTICLES PRODUCED IN BACTEIRA", JOURNAL OF GENERAL VIROLOGY, SOCIETY FOR GENERAL MICROBIOLOGY, SPENCERS WOOD, GB, vol. 71, no. 5, 1 January 1990 (1990-01-01), pages 1109 - 1117, XP008041154, ISSN: 0022-1317
- [A] DEVARAJ K ET AL: "Development of HPV vaccines for HPV-associated head and neck squamous cell carcinoma", CRITICAL REVIEWS IN ORAL BIOLOGY AND MEDICINE, CRC PRESS, BOCA RATON, FL, US, vol. 14, no. 5, 1 January 2003 (2003-01-01), pages 345 - 362, XP002393763, ISSN: 1045-4411
- [Y] CHENG-TAO LIN ET AL: "Enhancement of DNA vaccine potency through linkage of antigen gene to ER chaperone molecules, ER-60, tapasin, and calnexin", JOURNAL OF BIOMEDICAL SCIENCE, KLUWER ACADEMIC PUBLISHERS, DO, vol. 12, no. 2, 1 March 2005 (2005-03-01), pages 279 - 287, XP019272185, ISSN: 1423-0127
- [A] LIN YEN-YU ET AL: "Vaccines against human papillomavirus", FRONTIERS IN BIOSCIENCE, vol. 12, January 2007 (2007-01-01), pages 246 - 264, XP002620835, ISSN: 1093-9946
- [A] GENDRON K B ET AL: "Vaccination with human papillomavirus Type 16 E7 peptide with CpG oligonucleotides for prevention of tumor growth in mice", ARCHIVES OF OTOLARYNGOLOGY HEAD AND NECK SURGERY, AMERICAN MEDICAL ASSOCIATION, US, vol. 132, no. 3, 1 March 2006 (2006-03-01), pages 327 - 332, XP008090491, ISSN: 0886-4470
- [A] PUMPENS P ET AL: "HBV CORE PARTICLES AS A CARRIER FOR B CELL/T CELL EPITOPES", INTERVIROLOGY, KARGER, XX, vol. 44, no. 2-3, 1 January 2001 (2001-01-01), pages 98 - 114, XP009080591, ISSN: 0300-5526, DOI: 10.1159/000050037
- [A] LAURA R CHROMY ET AL: "Chaperone-mediated in vitro assembly of polyomavirus capsids", PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES (PNAS), NATIONAL ACADEMY OF SCIENCE, US, vol. 100, no. 8, 2 September 2003 (2003-09-02), pages 10477 - 40482, XP008127985, ISSN: 0027-8424, DOI: 10.1073/PNAS.1832245100
- See references of WO 2008154867A1

Citation (examination)

SCHODEL F ET AL: "Hybrid hepatitis B virus core antigen as a vaccine carrier moiety: I. Presentation of foreign epitopes", JOURNAL OF BIOTECHNOLOGY, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 44, no. 1, 26 January 1996 (1996-01-26), pages 91 - 96, XP004036853, ISSN: 0168-1656, DOI: 10.1016/0168-1656(95)00118-2

Cited by

EP2742139A4; EP2377879A1; US9580481B2; WO2011128247A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 2172488 A1 20100407; EP 2172488 A4 20110413; AU 2008265366 A1 20081224; BR PI0811692 A2 20191119; CA 2691091 A1 20081224; CA 2691091 C 20130730; CN 101952320 A 20110119; CN 101952320 B 20130814; JP 2010538604 A 20101216; JP 5545209 B2 20140709; US 2010143395 A1 20100610; US 8470372 B2 20130625; WO 2008154867 A1 20081224

DOCDB simple family (application)

EP 08757755 A 20080618; AU 2008265366 A 20080618; BR PI0811692 A 20080618; CA 2691091 A 20080618; CN 2008071346 W 20080618; CN 200880020642 A 20080618; JP 2010512496 A 20080618; US 66516808 A 20080618